## In the Claims:

1. (Currently amended) A method for the production of a plurality of optoelectronic semiconductor chips each having a plurality of structural elements with respectively at least one semiconductor layer, the method comprising the steps of at least the following method steps:

provision of providing a chip composite base having a substrate and a growth surface;

growth of growing a non-closed mask material layer onto the growth surface in such a way that the mask material layer has a plurality of statistically distributed windows having varying forms and/or opening areas, a mask material being chosen in such a way that a semiconductor material of the semiconductor layer that is to be grown in a later method step essentially cannot grow on said mask material or can grow in a substantially worse manner in comparison with the growth surface;

essentially simultaneous growth of simultaneously growing semiconductor layers on regions of the growth surface that lie within the windows; and

singulation of singulating the chip composite base with applied material to form semiconductor chips.

## 2. (Original) The method as claimed in claim 1, in which

the chip composite base has at least one semiconductor layer grown epitaxially onto the substrate and the growth surface is a surface on that side of the epitaxially grown semiconductor layer which is remote from the substrate.

- 3. (Currently amended) The method as claimed in <u>claim 1</u> one of the preceding claims, in which the chip composite base has a semiconductor layer sequence grown epitaxially onto the substrate with an active zone that emits electromagnetic radiation, and the growth surface is a surface on that side of the semiconductor layer sequence which is remote from the substrate.
- 4. (Currently amended) The method as claimed in <u>claim 1</u> either of claims 1 and 2, in which the structural elements respectively have an epitaxially grown semiconductor layer sequence with an active zone that emits electromagnetic radiation.
- 5. (Currently amended) The method as claimed in claim 1 one of the preceding claims, in which the mask material has SiO<sub>2</sub>, Si<sub>x</sub>N<sub>y</sub> or Al<sub>2</sub>O<sub>3</sub>.
- 6. (Currently amended) The method as claimed in <u>claim 1</u> one of the preceding claims, in which, after the growth of the semiconductor layers, a layer made of electrically conductive contact material that is transmissive to an electromagnetic radiation emitted by the active zone is applied to the semiconductor layers, so that semiconductor layers of a plurality of structural elements are electrically conductively connected to one another by the contact material.
- 7. (Currently amended) The method as claimed in <u>claim 1</u> one of the preceding claims, in which the average thickness of the mask material layer is less than the cumulated thickness of the semiconductor layers of a structural element.

- 8. (Currently amended) The method as claimed in <u>claim 1</u> one of the preceding claims, in which the mask material layer is at least partly removed after the growth of the semiconductor layers.
- 9. (Currently amended) The method as claimed in <u>claim 1</u> one of the preceding claims, in which, after the growth of the semiconductor layer sequences, a planarization layer is applied over the growth surface.
- 10. (Original) The method as claimed in claim 9, in which a material whose refractive index is lower than that of the semiconductor layers is chosen for the planarization layer.
- 11. (Currently amended) The method as claimed in claim 9 or 10, in which a material which has dielectric properties is chosen for the planarization layer.
- 12. (Currently amended) The method as claimed in <u>claim 1</u> one of the preceding claims, in which the growth conditions for the growth of the mask material layer are set in such a way that three-dimensional growth is predominant and the mask material layer is predominantly formed from a plurality of three-dimensionally growing crystallites.
- 13. (Currently amended) The method as claimed in <u>claim 1</u> one of claims 1 to 11, in which the growth conditions for the growth of the mask material layer are set in such a way that two-dimensional growth is predominant and the mask material layer is predominantly formed from a plurality of two-dimensionally accreting partial layers.

- 14. (Currently amended) The method as claimed in <u>claim 1</u> one of the preceding claims, in which the growth conditions for the growth of the mask material layer are set in such a way that most of the windows are formed with an average propagation of the order of magnitude of micrometers.
- 15. (Currently amended) The method as claimed in claim 1 one of claims 1 to 13, in which the growth conditions for the growth of the mask material layer are set in such a way that most of the windows are formed with an average extent of less than or equal to 1  $\mu$ m.
- 16. (Currently amended) The method as claimed in <u>claim 1</u> one of the preceding claims, in which the growth conditions for the growth of the semiconductor layers are set and/or varied during growth in such a way that semiconductor layers of the structural elements at least approximately form a lenslike form.
- 17. (Currently amended) The method as claimed in <u>claim 1</u> one-of-the preceding <del>claims</del>, in which the mask material layer and the semiconductor layers are grown by means of metal organic vapor phase epitaxy.
- 18. (Currently amended) An optoelectronic semiconductor chip, characterized in that it is produced according to a method as claimed in <u>claim 1</u> one of the preceding claims.